(b) A total installed capacity of 1650 MW through 199 projects based on biomass combustion and bagasse cogeneration have been installed and additional 170 projects of aggregate capacity of 1970 MW are under implementation in the country as on 30.09.2008. Besides, 30 biomass cogeneration (non-bagasse) projects aggregating to 136 MWeq and 105 biomass gasifier systems aggregating to 32 MWeq have been installed in various industries for meeting their captive energy requirements, both heat and power. In addition, 18 biomass cogeneration (non-bagasse) projects aggregating to 27 MW and 25 biomass gasifier systems aggregating to 10 MWeq are under installation.

(c) While the Ministry has no scheme to increase the availability of biomass for power generation, a project on "Biomass Resource Map of India" has been taken up with a view to estimate the potential of biomass resources for power generation integrating the distribution and availability of biomass in the country accrued from agriculture land, wastelands, shrub lands and forest land.

Incentives to renewable energy producers

2254. SHRI T.T.V. DHINAKARAN: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether it is proposed to offer incentives to renewable energy producers, like buy back of power at Minimum Support Price;

(b) if so, the details thereof; and

(c) if not, the reasons therefor?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI VILAS MUTTEMWAR): (a) and (b) The Electricity Act 2003, the National Electricity Policy 2005 and Tariff Policy 2006 already have the provision for preferential tariffs for renewable power, considering that it will take some time before renewable energy technologies can compete with conventional sources in terms of cost of electricity. However, the fixation of the minimum level these tariffs is the prerogative of the respective State Electricity Regulatory Commissions (SERCs)/State Governments.

Several other fiscal and financial incentives being provided for renewable power producers include capital/interest subsidy, accelerated depreciation, nil/concessional excise and customs duties. Benefit under Section 80-1A of Income Tax Act 1961 is also available to undertakings setup for the generation or generation and distribution of Renewable power in India.

(c) Does not arise.

Power generated by renewable energy sources

2255. DR. V. MAITREYAN: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) what is the total quantity of power generated by renewable energy sources in the country, State-wise;

(b) what is the cost effectiveness of this source of power generation;

(c) which are the States recommending setting up of renewable energy sources; and

(d) what steps are being taken to generate more power through renewable energy sources in the country?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI VILAS MUTTEMWAR): (a) The total grid-interactive power generation installed capacity from various renewable energy sources in the country is about 13,615 MW as on 30.11.2008. State-wise and source-wise details are given in the Statement. (*See* below)

(b) The principal renewable energy sources are small hydro, wind, biomass and solar energy. The cost-competitiveness of each resource is dependent on project capacity, specific location, site conditions and end use application. The estimated cost of renewable electricity generation from most of these sources except solar lies in the range of Rs. 1.50 — 7.50 per kWh, while in case of solar power, it lies in the range of Rs. 20.00 — 30.00 per kWh with the present State of technology. However, with a view to provide affordable source of energy to people in both, rural and urban areas, fiscal and financial incentives are being provided.

(c) It is the growing compulsion of most States to exploit all available sources, including renewables, to meet their ever increasing demand of power.

(d) The Government has put in place a conducive policy and regulatory framework under the Electricity Act 2003, the National Electricity Policy 2005 and Tariff Policy 2006 to attract investment in Renewable power sector. There are several programmes under which a mix of fiscal and financial incentives are being provided, which include capital/interest subsidy, accelerated depreciation, nil/concessional excise and customs duties. Preferential tariff for grid interactive renewable power is being given in most potential States. Benefit under Section 80-1A of Income Tax Act 1961 is also available to undertakings setup for the generation or generation and distribution of Renewable power in India.

Statement

State-wise details of cumulative grid interactive renewable power installed capacity as on 30.11.2008

Grid connected Renewable Power

Sl. No.	States/UT	Small Hydro Power (MW)	Wind Power (MW)	Bio-Power		Solar Power (MW)	Total Capacity (MW)
				Biomass Power (MW)	Waste to Energy (MW)		
1	2	3	4	5	6	7	8
1.	Andhra Pradesh	180.83	122.50	343.25	32.00	0.10	678.88
2.	Arunachal Pradesh	45.34				0.02	45.36

1	2	3	4	5	6	7	8
3.	Assam	27.11					27.11
4.	Bihar	50.40					50.40
5.	Chhattisgarh	18.05		156.10			174.15
6.	Goa	0.05					0.05
7.	Gujarat	7.00	1432.70	0.50	0.00		1440.20
8.	Haryana	62.70		6.00			68.70
9.	Himachal Pradesh	204.92					204.92
10.	Jammu and Kashmir	111.83					111.83
11.	Jharkhand	4.05					4.05
12.	Karnataka	526.50	1184.50	274.28	1.00		1986.28
13.	Kerala	123.12	23.00			0.02	146.14
14.	Madhya Pradesh	71.16	187.70	1.00	2.75	0.10	262.71
15.	Maharashtra	211.33	1837.90	155.50	1.00		2205.73
16.	Manipur	5.45					5.45
17.	Meghalaya	31.03					31.03
18.	Mizoram	17.47					17.47
19.	Nagaland	28.67					28.67
20.	Orissa	32.30					32.30
21.	Punjab	123.90		28.00	9.25	0.32	161.47
22.	Rajasthan	23.85	671.00	31.30		0.15	726.30
23.	Sikkim	41.11					41.11
24.	Tamil Nadu	90.05	4123.70	308.70	4.25	0.05	4526.75
25.	Tripura	16.01					16.01
26.	Uttar Pradesh	25.10		372.50	5.00	0.38	402.98
27.	Uttaranchal	109.92				0.05	109.97
28.	West Bengal	98.40	1.10			0.05	99.55
29.	Andaman and Nicobar	5.25				0.10	5.35
30.	Chandigarh						
31.	Dadar and Nagar Haveli						
32.	Daman and Diu						
33.	Delhi						
34.	Lakshwadeep		3.2			0.76	3.96
35.	Pondicherry					0.02	0.02
	Total (MW)	2292.89	9587.30	1677.13	55.25	2.12	13614.69

MW = megawatt

Sl. No.	States/UT	Biogas Plants	Biomass Gasifiers	Waste to Enegy		Solar Photovoltaic Systems				SPV Pumps	Water Pumping Wind Mills	Aerogen/ Hybrid systems	Solar Cookers	Remote Village Electri-fication Villages/ Hamlets
				Industrial	Biogass	SLS	HLS	SL	PP					
		(Nos.)	(MW)	(MW)	(MWe)	(Nos.)	(Nos.)	(Nos.)	kWp	(Nos)	(Nos)	(kW)	(Nos)	(Nos.)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Andhra Pradesh	433414	15.38	3.75	0.95	3733	1628	35152	21.66	613	6	16.00	13395	
2.	Arunachal Pradesh	2545	1.98			788	1770	9937	7.90	1			530	128
3.	Assam	63642	0.12			98	5870	711	7.50	45	3	600	80	1950
4.	Bihar	125488	0.49			690	277!	50117	0.00	139	46		475	79
5.	Chhattisgarh	25499	0.51			1409	7028	3192	0.00	93			37114	
6.	Goa	3828	0.02			283	223	603	1.72	15		63.80	1500	
7.	Gujarat	395552	14.51	2.00	0.91	2004	5918	31603	29.90	85	874	10.00	146219	36
8.	Haryana	51314	1.06			3793	22698	41465	250.40	469			27115	149
9.	Himachal Pradesh	45225	0.01			2994	16840	22470	1.50	6			28837	0
10.	Jammu and Kashmir	2262	0.52			5496	15769	27509	175.60	39			868	27
11.	Jharkhand	3079	0.18			620	4035	16374	0.00				280	405
12.	Karnataka	400614	5.56	0.00	2.00	2271	23038	7334	29.41	532	26	34.15	253	66

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
13.	Kerala	117227	0.73			1090	32326	41181	44.70	810	79	8.00	236	49
14.	Madhya Pradesh	266389	4.74	0.00	0.03	6054	1307	8564	22.40	87			141618	215
15.	Maharashtra	753831	3.82	0.00	1.76	3491	825	8683	6.44	228	26	489.37	58044	255
16.	Manipur	2128				370	2850	3883	28.00	12		30.00	365	68
17.	Meghalaya	5111				1273	7040	24875	50.50	19			1165	70
18.	Mizoram	3670	0.20			315	3045	5812	109.00	37			110	
19.	Nagaland	3123	1.38			271	218	3437	6.00					3
20.	Orissa	232190	007			5819	4485	9882	36.52	8			3437	197
21.	Punjab	88344	0.70	0.00	1.58	3037	4620	14995	71.00	1821			22050	
22.	Rajasthan	67080	0.23			6632	50551	4716	25.80	283	222	4.00	36682	303
23.	Sikkim	6331	0.00			162	1805	720	14.70			10.00	20	
24.	Tamil Nadu	213015	5.41	0.23	2.75	2672	1557	16818	30.05	829	56	24.50	1536	32
25.	Tripura	2587	1.10			760	2800	28000	24.57	25			80	205
26.	Uttar Pradesh	416998	4.89	5.00	0.73	950	52997	51683	129.20	751			50134	17
27.	Uttaranchal	8179			1.52	1169	43331	56523	80.03	26			8998	140
28.	West Bengal	285462	7.35			2111	76304	3662	675.00	48		18.00	7959	5
29.	Andaman and Nicobar Islands	137	0.17			358	405	6296	167.00	5	2		60	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30.	Chandigarh	97				0	275	1675	0.00	12			1529	
31.	Dadra and Nagar Haveli	169				0	0	0	0.00				80	
32.	Daman and Diu					0	0	0	0.00					
33.	Delhi	678	0.07			301	0	4753	30.00	89			27990	
34.	Lakshwadeep					0	0		85.00					
35.	Pondicherry	573	0.60			310	25	1637	0.00	21		5.00	90	
36.	Others*		0.32			9150	8584	125797	58.00				17950	
	Total	4025781	72.12	10.98	12.23	70474	402938	670059	2219.50	7148	1340	718.82	636799	4399

SLS = Street Lighting System; HLS = Home Lighting System;

SL = Solar Lantems; SPV = Solar Photovoltaic;

MW = Mega Watt; kWp = kilowatt peak;

PP = Power plant

*Installed through NGOs/IREDA in different States/UTs